


Amendments to the Abstract

Please amend the Abstract as indicated below:

ABSTRACT

 A method and system for identification of primary seismic events in the presence of non-primary events (e.g. multiples) is provided in which coherency filters are used to avoid attenuation of primary events when attenuating multiples. A method is disclosed for identifying primary events in seismic data. The method includes sorting the data by frequency so that at least some primary events are separated from non-primary events, thus generating a frequency sorted gather. Amplitudes in the frequency sorted gather above a selected base amplitude are attenuated. The events are then coherency filtered and the attenuated amplitudes are replaced with amplitudes corresponding to the coherent events.